

## AN ITEM RESPONSE THEORY ANALYSIS OF POST-TRAUMATIC STRESS DISORDER SYMPTOMS MEASURED WITH TWO INSTRUMENTS IN 6,733 9/11-EXPOSED YOUTH

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**Introduction:** Item Response Theory (IRT) allows for dimensional scaling of the severity of a disorder, and comparison of symptoms' properties across different measures of the same trait and across groups. IRT has never been applied to Post-traumatic Stress Disorder (PTSD).

**Objectives:** To determine discrimination and severity parameters of PTSD symptoms measured with two instruments, and to examine gender- and age-related Differential Item Functioning (DIF) of PTSD indicators.

**Aims:** To inform the dimensional scaling of PTSD in youth.

**Methods:** IRT was applied to PTSD items measured with the DPS and the PTSD-RI in 6,733 9/11-exposed youths. DIF analysis was performed in the sample stratified by gender and age (8-13; 14-21).

**Results:** DPS and PTSD-RI items are most informative at intermediate and severe levels of PTSD, respectively. Across instruments, discrimination was greatest for insomnia and nightmares, and lowest for 9/11-related thoughts. Severity parameters were highest for avoidance and numbing symptoms, and lowest for 9/11-related thoughts. The majority of PTSD symptoms showed significant DIF across subgroups.

**Conclusion:** DPS and PTSD-RI criteria are informative at different levels of PTSD severity. PTSD symptoms differentially discriminate among individuals along the PTSD continuum, and are most informative at different levels of PTSD severity. These results could inform dimensional scaling of PTSD, and allow for flexibility in assigning cut-off points for facilitating clinical decision-making. PTSD criteria do not provide the same information across subgroups defined by gender and age, suggesting that symptoms differ in the way they represent severe post-traumatic stress reactions across groups.